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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,280	02/14/2002	Ping-Ling Fan	67,200-671	3287

7590 09/27/2004  
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EXAMINER	
GUADALUPE, YARITZA	
ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	Application No. 10/077,280	Applicant(s) FAN ET AL.	
	Examiner Yaritza Guadalupe McCall	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

In response to Amendment filed July 12, 2004

### *Drawings*

1. The drawings were received on July 12, 2004. These drawings are acceptable.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 5, 7 – 15 and 17 - 22 are rejected under 35 U.S.C. 102 ( b ) as being anticipated by Admitted Prior Art [Hereinafter APA].

APA discloses an apparatus comprising a gauge ( 92 ) for measuring a gap between said baffle and the chamber wall ( See Figure 4 and page 13, lines 1 - 5 of the Specification ) in order to level said electrostatic chuck, which can be also translated into prevention of peeling or damaging said chamber wall. APA discloses an apparatus for use in various semiconductor fabrication operation, .e.g., wet cleaning semiconductor operation. APA further discloses the use

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of dual rotate magnets ( DRM ) ( See Figure 4, # 10 and 11 ), a focus ring (20), and said electrostatic chuck having a horizontal or vertical movement.

With respect to claim 4 : APA discloses a gap gauge ( 92 ) and leveling mechanism (98) which sets forth a horizontal gap gauge. The gap gauge ( 92 ) protrudes from the chamber wall by a thickness which will be the threshold gap needed between the baffle plate and the chamber wall to avoid contact. Also, the leveling mechanism ( 98 ) serves as a horizontal gauge because its orientation has an indentation that serves as the leveling portion.

With respect to the preamble of the claim : the preamble of the claim does not provide enough patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self – contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 ( CCPA 1951). Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *In re Schreiber*, 44 USPQ2d 1429 ( Fed. Cir. 1997 ).

Regarding claims 11 – 15 : The method comprising the steps of moving an electrostatic chuck and measuring a gap between the baffle plate and the chamber wall by using a gauge integrated with the system, said process being a wet cleaning semiconductor operation, said gauge also being adapted use in leveling said ESC and being a horizontal gap gauge capable of

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being use for preventing polymer peeling of the chamber wall as stated in claims 11 – 15 will be met during the regular operation of the apparatus and system disclosed by APA.

4. Claims 6 and 16 are rejected under 35 U.S.C. 103 ( a ) as being unpatentable over APA in view of Hunter ( US 6,468,816 ).

APA discloses an apparatus as stated in paragraph 3 above.

APA does not discloses a leveling gauge as stated in claims 6 and 16.

Hunter discloses a processing system having a processing chamber ( 12 ) having a bubble level ( 26 ) for determining the inclination of the blade ( 18 ) in order to avoid misalignment during a process. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a bubble level / leveling gauge as taught by Hunter in the apparatus disclosed by APA in order to correct from damages due to expansion / shrinkage on the surface to be leveled that may result in malfunction of the process overtime.

With respect to the method as stated in claim 16 : The method as stated in claim 16 including the step of providing a leveling gauge can be met by the regular operation of the apparatus and system disclosed by APA.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1 - 22 have been considered but are moot in view of the new ground(s) of rejection.

Applicant arguments regarding the leveling mechanism are not persuasive. Applicant states that the leveling portion ( 74 ) forms part of the leveling mechanism or gauge ( 78 ), which is a horizontal gauge, so the measurement can take place horizontally, and therefore because the leveling mechanism or gauge ( 78 ) can function in a horizontal manner, the gap between the baffle plate and the chamber walls can be properly measured. However, claim 1 only requires a gauge apparatus having an ESC ( 34 ) that moves from a first to a second position and a gauge. It has been clearly indicated that APA ( See Figure 4 ) discloses the requirements of the claim, showing an ESC ( 34 ) and a gauge ( 92, 98 ). After reviewing applicant arguments, it is noted that Applicant is using broad terms to argue specifics that are not even present in the claims. For example, Applicant argues that APA fails to teach the leveling mechanism ( 78 ), which prevents the baffle plate ( 16 ) from scratching the chamber apparatus during movement of the ESC ( 34 ) in the vertical direction, and that this leveling mechanism, which permits accurate measurement of the gap between the baffle plate ( 16 ) and the chamber wall, is the point of Applicant invention since it is the structure that measures the horizontal gap. However, nowhere in independent claim 1 or subsequent claims 2 – 5, the leveling mechanism is mentioned. If in fact the leveling mechanism is Applicant's invention, the claim language shows otherwise.

Applicant merely claims the leveling mechanism to be more efficient by accurately measuring the gap. The fact that the claims refer to a gauge apparatus for use in a semiconductor fabrication system comprising an electrostatic chuck movable from a first to a second position and a gauge for measuring a gap between a baffle plate and a chamber wall, and preventing damage to said chamber wall by said baffle plate during a movement of said electrostatic chuck during a semiconductor fabrication operation of said semiconductor fabrication system, wherein said gauge is located proximate to said electrostatic chuck at said second position of said electrostatic chuck, as argued by Applicant, does not patentably distinguish the cited Prior Art from the structure claimed by Applicant and only provides a recitation of the intended use since only states the function and location of the gauge which is considered only a matter of the performance to which is intended to be used for and since APA clearly discloses each of the structural limitations including an ESC and a gauge considered to measure the horizontal gap as stated in paragraph 2 above.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Yaritza Guadalupe  
Patent Examiner  
Art Unit 2859  
September 21, 2004

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